

ADDITIONAL DISTRIBUTION RECORDS AND ABUNDANCE OF THREE SPECIES OF SNAKES IN SOUTHWESTERN IDAHO

Lowell V. Diller¹ and Richard L. Wallace¹

ABSTRACT.— New county records are reported for *Hypsiglena torquata* and *Rhinocheilus lecontei*, and additional distribution records are presented for *Sonora semiannulata* in southwestern Idaho. These three species are more abundant than indicated by previous records.

The specific distribution of some of the more secretive snakes in Idaho is poorly known. Erwin (1925) made the first reported collections of the western ground snake, *Sonora semiannulata*, and the night snake, *Hypsiglena torquata*, in Idaho. Later, Tanner (1941) and Slater (1941) each accumulated information on the distribution of amphibians and reptiles in Idaho. Tanner recorded the only known locality of the longnose snake, *Rhinocheilus lecontei*, from Elmore County and listed three localities each for the western ground snake and night snake. Tanner also noted that a specimen of the ground snake was reportedly collected along the Snake River south of Caldwell, Canyon County. Slater (1941) listed the longnose snake only from Elmore County, the ground snake only from Ada County, and the night snake from Canyon and Ada Counties. Medica (1975) recorded the longnose snake from Elmore County and Pendlebury (1976) reported one new record of this snake from Owyhee County. Linder and Fichter (1977) reported five locality records of the longnose snake (Elmore and Owyhee Counties), four localities of the ground snake (Ada, Owyhee, Elmore, and Canyon Counties), and four county records for the night snake (Ada, Bannock, Blaine, and Canyon Counties). Six new records of the western ground snake were published recently by Ralston and Clark (1978). In the following paper, we add further to the knowledge of the distribution and abundance of these three snakes in Idaho.

METHODS AND MATERIALS

The senior author participated in an intensive study of the reptiles of the Birds of Prey Natural Area (BPNA) along the Snake River in southwestern Idaho, from 1975 to 1979. During the early part of this study, he captured snakes by hand while driving roads, walking transects, and turning rocks and debris. Drift fences were also used during the last four summers of this study. Each drift fence consisted of a 30 m section of galvanized metal 51 cm high with two "snake traps" located 7.6 m from each end. The "snake traps" were boxes 1.2 m long, 0.6 m wide, and 0.3 m high constructed out of 2.3 mm ($\frac{1}{8}$ in) hardware cloth. Funnels lead into the trap from each end. A total of 40 drift fences were operated over a four-year span from 1977 to 1980. The drift fences were placed in a variety of habitats and kept in operation from early May through at least the end of July. In addition, snakes were brought to us by various other members of the BPNA research staff.

RESULTS AND DISCUSSION

We collected 14 desert night snakes, *H. t. deserticola*, from Owyhee, Elmore, and Gem Counties in southwestern Idaho (Fig. 1), new county records for this species. The four localities in Owyhee County are 2.5 mi SSW of Swan Falls, 3 mi E of Oreana, 4 mi NNE of Murphy, and 6 mi S of Swan Falls. The three

¹Department of Biological Sciences, University of Idaho, Moscow, Idaho 83843.

localities in Elmore County are 2 mi SE of Black Butte, 5 mi NE of Grandview, and 6 mi NE of Grandview. The site in Gem County is 1.5 mi E of Emmett. *Hypsiglena t. deserticola* were also collected from 11 sites (45 individuals) in Ada County and one site (one individual) in Canyon County.

Nine western longnose snakes (*Rhinocheilus lecontei lecontei*) were taken from four localities in Ada County and one specimen was collected in Canyon County (Fig. 2). These are new county records for this species. The localities in Ada County are 1 mi SE of Swan Falls, 2 mi S of Swan Falls, 3.5 mi SSE of Swan Falls, and 1 mi NW of Swan Falls. The one site in Canyon County is 5 mi S of Melba. We also collected four *R. l. lecontei* from three additional localities in Owyhee County. Three additional specimens were collected by Roger Whitney during the summer of 1971 around residences at the Marsing Job Corps Center.

We collected 35 Great Basin ground snakes (*Sonora semiannulata isozona*) from 22 localities in Canyon, Ada, Elmore, and

Owyhee Counties (Fig. 3). Although none of these collections represent new county records, we have more than doubled the number of localities from which these species had been previously reported in Idaho (Ralston and Clark 1978). *S. s. isozona* were collected from one site in Canyon County, 10 sites in Ada County, 5 sites in Elmore County, and 6 sites in Owyhee County.

Desert night snakes were collected in a variety of habitats, including rocky areas along the canyon rim of the Snake River, at the base of talus slopes, and in shadescale (*Atriplex confertifolia*) and greasewood (*Sarcobatus vermiculatus*) areas away from the Snake River canyon. Western longnose snakes were collected in almost all major habitats in southwestern Idaho. This included areas adjacent to various agricultural lands, rocky and sandy areas, open desert lands, and riparian habitats. Western ground snakes appear to have the most restricted habitat requirements of these three snake species. With only a few exceptions, all ground snakes were collected in or near talus or scree slopes. The

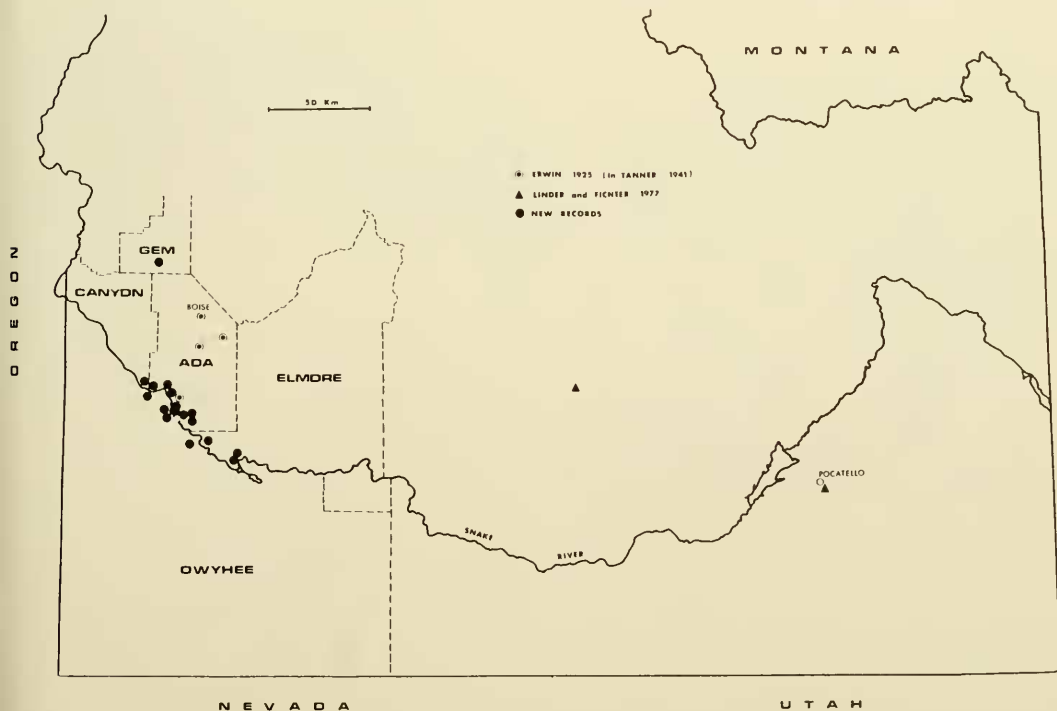


Fig. 1. Distribution of *Hypsiglena torquata deserticola* in Idaho. Some new localities are not shown because of close proximity to other localities.

snakes that were not actually in loose rocky slopes appeared to be utilizing small burrows probably formed by some invertebrate in compact loess near the base of these rocky slopes.

The paucity of records for these three snake species would indicate that they are all rare in Idaho. However, as indicated by Linder and Fichter (1977), they are all secretive, fossorial, or nocturnal snakes that are not easily collected and may be more abundant than the records indicate. Our total collection of 60 night snakes, 46 longnose snakes, and 36 ground snakes confirms that these snakes are not very rare in southwest Idaho and that they can be collected in appreciable numbers by employing the proper techniques. Of the three species, our records suggest that night snakes are the most abundant, followed by longnose snakes, and then ground snakes. Ground snakes seem quite abundant in the areas where they occur, but their more restricted habitat makes their overall abundance low.

Many of the specimens we collected were marked and released for future studies. Most

of the new county records are housed in the reptile collection at the University of Idaho.

ACKNOWLEDGMENTS

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LITERATURE CITED

- ERWIN, R. P. 1925. Snakes in Idaho. *Copeia*, 1925 No. 139:6-7.
- LINDER, A. D., AND E. FICHTER. 1977. The amphibians and reptiles of Idaho. Idaho State University Press, Pocatello. 78 pp.
- MEDICA, P. A. 1975. *Rhinocheilus*. *Cat. Amer. Amph. & Rept.* 175.1-175.4.

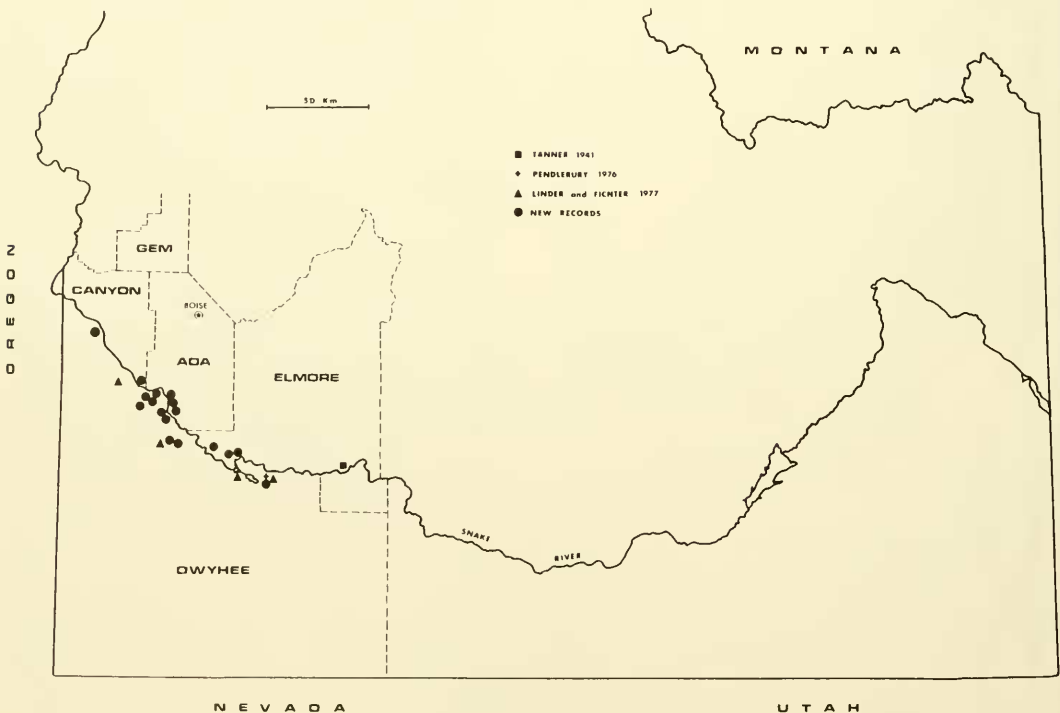


Fig. 2. Distribution of *Rhinocheilus lecontei lecontei* in Idaho. Some new localities are not shown because of close proximity to other localities.



Fig. 3. Distribution of *Sonora semiannulata isozona* in Idaho. Some new localities are not shown because of close proximity to other localities.

PENDLEBURY, G. B. 1976. Second occurrence of the long-nose snake, *Rhinocheilus lecontei lecontei*, in Idaho. *Great Basin Nat.* 36(1):56.

RALSTON, G. L., AND W. H. CLARK. 1978. Additional records of the western ground snake, *Sonora semiannulata*, for Idaho. *J. Idaho Acad. Sci.* 14(2):35-38.

SLATER, J. R. 1941. The distribution of amphibians and reptiles in Idaho. *Occ. Pap. Biol., College of Puget Sound.* No. 14:78-109.

TANNER, W. W. 1941. The reptiles and amphibians of Idaho. No. 1. *Great Basin Nat.* 2:87-97.